



# UNITED STATES PATENT AND TRADEMARK OFFICE

A

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,139	11/25/2003	Baolute Ren	03-0950 ESCM 370029-00001	6344
8840	7590	04/01/2005	EXAMINER	
ECKERT SEAMANS CHERIN & MELLOTT, LLC ALCOA TECHNICAL CENTER 100 TECHNICAL DRIVE ALCOA CENTER, PA 15069-0001			WALBERG, TERESA J	
			ART UNIT	PAPER NUMBER
			3753	

DATE MAILED: 04/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/721,139

Applicant(s)

REN, BAOLUTE

Examiner

Teresa J. Walberg

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 5-7, 10, 12-18 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8, 9, 11 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Applicant's election of Species I, claims 1-4, 8, 9, 11, and 19, in the reply filed on 06 December 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement and did not state that the election was made with traverse, the election has been treated as an election without traverse (MPEP § 818.03(a)).

The attorney states that "Applicant is not familiar with this type of restriction based on the drawings". The attorney is requested to direct the applicant's attention to MPEP 809.02(a), which describes election of species requirements and states that the species are preferably identified by reference to specific figures.

The attorney further states that Applicant is not familiar with case law that requires every minute aspect of the invention to be illustrated if it is described in the specification. The attorney is requested to point out to the applicant that the features required to be illustrated are specifically mentioned in the claims, and are not just minute details described in the specification. Note 37 CFR 1.83 which states "The drawing in a nonprovisional application must show every feature of the invention specified in the claims."

The attorney states that Figs. 1-4 show tube channels 5. This is noted. However, Figs. 1-4 do not show channels in the connecting members.

2. Claims 5-7, 10, 12-18, and 20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable

generic or linking claim. Election was made **without** traverse in the reply filed on 06 December 2004.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, if applicant continues to prosecute claims 5-7, 10, and 12, the subject matter of claims 5-7, 10, and 12, in which the connecting member includes both channels and fins, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 4, 8, 9, 11, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Lyon (3,012,758).

Lyon discloses a tubing configuration for use in a heat exchanger (see Fig. 1), including at least two tubes (17, see Fig. 5), each tube (17) having at least one channel, a connecting member (13) between the two tubes (17), a plurality of fins (26, see Fig. 5) extending at an angle from the connecting member, and a plurality of spaced apart openings associated with the fins (Fig. 5).

With respect to claim 2, since the fin is punched out of the opening they would necessarily have the same shape. See Fig. 5

With respect to claim 4, the inner surface meets the claim limitation since it is shown as being smooth. See Fig. 5. However, any surface would necessarily be within one of the listed categories of smooth, or non-smooth, or a combination thereof.

With respect to claim 8, the fins and openings extend along the connecting member in a lateral and a longitudinal direction. See Fig. 5

With respect to claim 9 the fins are formed from the connecting member. See Fig. 5.

With respect to claim 11, Fig. 1 shows a pair of headers (11, 12) connected by a plurality of tubing (13), the headers defining a plane generally perpendicular to a flow path of a gas, and the tubing as disclosed in claim 1. The fins are generally aligned along the gas flow direction (see Fig. 5).

With respect to claim 19, Lyon teaches the tubing configuration being used for heat exchange (col. 1, lines 13-25) and shows gas flows across the fin projections (Fig. 5).

6. Claims 1, 3, 4, 8, 9, 11, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Sasaki et al (5,513,432).

Sasaki et al disclose a tubing configuration for use in a heat exchanger (see Fig. 1), including at least two tubes (31 in Fig. 2 or 62 in Figs. 7A, 7B), each tube (62) having at least one channel, a connecting member (63) between the two tubes (62), a plurality of fins (64, see Figs. 7A and 7B) extending at an angle from the connecting member (63), and a plurality of spaced apart openings associated with the fins (64).

With respect to claim 3, Sasaki et al disclose making the tubing configuration by extrusion. See col. 3, line 57.

With respect to claim 4, the inner surface meets the claim limitation since it is shown as being smooth. See Fig. 7B. However, any surface would necessarily be within one of the listed categories of smooth, or non-smooth, or a combination thereof.

With respect to claim 8, the fins and openings extend along the connecting member in a lateral and a longitudinal direction. See Figs. 7A and 7B.

With respect to claim 9 the fins are formed from the connecting member. See Figs. 7A and 7B.

With respect to claim 11, Fig. 1 shows a pair of headers (1, 2) connected by a plurality of tubing (33), the headers defining a plane generally perpendicular to a flow path of a gas, and the tubing as disclosed in claim 1. The fins are generally aligned along the gas flow direction (see Figs. 7A and 7B).


With respect to claim 19, Sasaki et al teach the tubing configuration being used for heat exchange (see title) and teach gas flows across the fin projections (col. 4, lines 57-61).

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bailys, Heuer et al, Kun, Fitch et al, Ostbo, Averous et al, Cho et al, and Romero Beltran are cited to show tube and fin heat exchange structures.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on 571-272-4930. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Teresa J. Walberg  
Primary Examiner  
Art Unit 3753

tjw